

CLAIMS (RETYPEDE)

1. Method for distinguishing between different states or forms of diseases and disorders characterized by thrombocytopenia and/or by spontaneous interaction between Von Willebrand Factor (vWF) and platelets, and/or to predict the progression of such a disease or disorder, said method comprising the steps of:
 - a) providing at least one biological sample obtained from a patient suffering from, or suspected to suffer from, at least one disease or disorder characterized by thrombocytopenia and/or by spontaneous interaction between Von Willebrand Factor (vWF) and platelets;
 - b) determining the amount of vWF in the active conformation in said biological sample;in which the amount of vWF in the active conformation in the sample is representative for the different states or forms of the disease or disorder.
- 15 2. Method according to claim 1, wherein said active conformation is characterized by exposure of the A1 domain of vWF molecules, such that interaction between the vWF A1 domain and GpIb is facilitated/promoted
- 20 3. Method according to claim 1 or 2, in which the biological sample is a sample that contains vWF.
4. Method according to any of the preceding claims, in which the biological sample is a sample that contains vWF and platelets.
- 25 5. Method according to any of the preceding claims, in which the biological sample is chosen from whole blood, plasma, serum or other suitable blood fractions.
- 30 6. Method according to any of claims 4 or 5, in which both the amount of activated vWF in the sample and the platelet number in the sample are determined, and optionally are compared to each other.

7. Method according to any of the preceding claims, in which the diseases and disorders characterized by thrombocytopenia and/or by spontaneous interaction between Von Willebrand Factor (vWF) and platelets are chosen from the group consisting of:

5 5 Thrombocytopenic Purpura (TTP), pre-eclampsia, HELLP syndrome, Von Willebrand disease Type 2; DIC (diffuse intracellular coagulation) or Sepsis; malignant hypertension; antiphospholipid syndrome; exposure to carcinogens in general; after platelet transfusion with platelet concentrates (for perfusion).

10 10 8. Method according to claim 7, in which the disease characterized by thrombocytopenia and/or by spontaneous interaction between Von Willebrand Factor (vWF) and platelets is Thrombocytopenic Purpura (TTP) and which in the method is used to distinguish between patients with acquired TTP and patients with congenital TTP.

15 15 9. Method according to claim 7, in which the disease characterized by thrombocytopenia and/or by spontaneous interaction between Von Willebrand Factor (vWF) and platelets is pre-eclampsia or HELLP syndrome and in which the method is used to distinguish between patients with pre-eclampsia and patients with HELLP syndrome.

20 20 10. Method according to claim 7, in which the disease characterized by thrombocytopenia and/or by spontaneous interaction between Von Willebrand Factor (vWF) and platelets is pre-eclampsia and in which the method is used to predict the progress of said pre-eclampsia, and in particular to predict which patients with pre-eclampsia will develop HELLP and/or determine which patients are at an increased risk of developing HELLP.

25 25 11. Method according to any of the preceding claims, in which the amount of vWF in the active conformation is determined by contacting the biological sample with a binding agent that is capable of specifically binding vWF in the active conformation in the

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presence of vWF in the non-active conformation, and then optionally determining the amount of vWF in the active conformation bound to the binding agent.

12. Method according to claim 11, in which the binding agent is a protein or 5 polypeptide that is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation.

13. Method according to claim 11 or 12, in which the binding agent is an antibody that 10 is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; a part of fragment of an antibody, in which said part or fragment is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; or a protein or polypeptide that contains one or more parts of fragments of an antibody, in which at least one of said parts or fragments is capable of specifically binding vWF in the active conformation in the 15 presence of vWF in the non-active conformation.

14. Method according to any of claims 11 to 13, in which the binding agent is a heavy 20 chain antibody that is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; a part of fragment of a heavy chain antibody, in which said part or fragment is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; or a protein or polypeptide that contains one or more parts of fragments of a heavy chain antibody, in which at least one of said parts or fragments is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation.

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15. Method according to any of claims 11 to 14, in which the binding agent is a variable domain of antibody, in which said variable domain is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; or a protein or polypeptide that contains one or more variable domains, in 30 which at least one of said variable domains is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation

16. Method according to any of claims 11 to 15, in which at least one of said variable domains is a heavy chain variable domain.
- 5 17. Method according to any of claims 11 to 16, in which at least one of said variable domains is a variable domain of a heavy chain antibody.
- 10 18. Method according to any of claims 11 to 17, in which the binding agent is a Nanobody™ that is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; or a protein or polypeptide that contains one or more Nanobodies™, in which at least one of said Nanobodies™ is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation.
- 15 19. Method according to any of claims 11 to 18, in which the binding agent is the heavy chain antibody AU/VWFa-11; a part of fragment of the heavy chain antibody AU/VWFa-11, and in particular the variable domain of the heavy chain antibody AU/VWFa-11; or a protein or polypeptide that contains one or more parts of fragments of the heavy chain antibody AU/VWFa-11, and that in particular contains at least one variable domain of the heavy chain antibody AU/VWFa-11.
- 20 20. Method according to any of claims 11 to 19, in which the amount of vWF in the active conformation is determined by an immunosorbent assay involving the use of the binding agent.
- 25 21. Method according to any of claims 11 to 20, in which the binding agent is immobilized on a suitable support.
- 30 22. Kit-of-parts for determining the amount of vWF in the active conformation in a sample, comprising at least an agent that binding agent that is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active

conformation; and optionally comprising means for determining the total amount of vWF in the active and the non-active conformation present in the sample; and/or means for determining the platelet number in the sample; and/or instructions for use; and/or one or more parts, elements or components of kits for binding assays known per se; for

5 distinguishing between different states or forms of diseases and disorders characterized by thrombocytopenia and/or by spontaneous interaction between vWF and platelets, and/or to predict the progression of such a disease or disorder, wherein said kit-of-parts is optionally packaged in a suitable packaging or container.

10 23. Use of an antibody that is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; of a part or fragment of an antibody, wherein said part or fragment is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; or of a protein or polypeptide containing a part or fragment of an antibody, wherein said

15 part or fragment is capable of specifically binding vWF in the active conformation in the presence of vWF in the non-active conformation; wherein said kit-of parts is optionally packaged in a suitable packaging or container.